CLAIMS

1. Alumina hydrate particles having a composition represented by the general formula:

$$x\ M_2O \cdot y\ (NH_4)_2O \cdot Al_2O_3 \cdot z\ H_2O \qquad (1)$$

$$2 \times 10^{-4} \leq x \leq 25 \times 10^{-4}$$

$$0.1 \times 10^{-4} \leq y \leq 20 \times 10^{-4}$$

$$0.6 \leq z \leq 2.5$$

wherein M represents an alkali metal; when the alkali metal is in the form of M_2O, x is the number of moles thereof per mol of Al_2O_3; when ammonia is in the form of $(NH_4)_2O$, y is the number of moles thereof per mol of Al_2O_3; and z is the number of moles of hydration water (H_2O) per mol of Al_2O_3,

said alumina hydrate particles having:

an average particle diameter of 0.02 to 0.2 μm,

a total pore volume of 0.5 to 1.5 ml/g, and

a volume of pores whose diameter is from 15 to 30 nm ranging from 0.3 to 1.0 ml/g.

2. A process for producing alumina hydrate particles, comprising the steps of:

neutralizing an aqueous solution of alkali metal aluminate or an aqueous solution of aluminum salt to thereby form an alumina hydrogel;

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separating the alumina hydrogel by filtration, and washing the separated alumina hydrogel with water and/or aqueous ammonia;

adjusting the pH value of the washed alumina hydrogel so as to fall within the range of 9 to 12, and heating the alumina hydrogel at 50 to 105°C to thereby effect aging of the alumina hydrogel;

adding an acid to the alumina hydrogel so that the alumina hydrogel is deflocculated into an alumina hydrosol; and

drying the alumina hydrosol.

3. An alumina hydrate particle dispersion sol comprising a dispersion of the alumina hydrate particles claimed in claim 1 in water.

4. The alumina hydrate particle dispersion sol as claimed in claim 3 having a viscosity of 50 to 2000 cP exhibited when the Al_2O_3 has a concentration of 20% by weight.

5. The alumina hydrate particle dispersion sol as claimed in claim 3 or 4 having an absorbance (ABS) of 2.0 or less exhibited when the Al_2O_3 has a concentration of 20% by weight.

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6. A coating liquid for forming an ink receptive layer, comprising:

alumina hydrate particles claimed in claim 1, and

a binder,

both dispersed in water and/or an organic solvent.

7. A recording sheet with ink receptive layer, comprising a substrate sheet having an ink receptive layer formed thereon from the coating liquid for forming an ink receptive layer, claimed in claim 6.